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EXAMINER	
CHANG, JON CARLTON	
ART UNIT	**PAPER NUMBER**
2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/981,920	KINJO, NAOTO
	Examiner	Art Unit
	Jon Chang	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 19 October 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Specification

1. The disclosure is objected to because of the following informalities:

a) On page 1, last two lines, "a pieces of image" is not grammatically correct.

b) On page 10, in the Brief Description of the Drawings, there are two brief descriptions of Figures 1-3.

c) On page 25, at line 14, "hedder" should be changed to "header".

d) On page 29, at line 1, "institution" should be changed to "section".

e) On page 30, at line 15,"using" may have been intended to read, "with".

Appropriate correction is required.

Claim Objections

2. Claims 1, 2 and 4 are objected to because of the following informalities:

a) In claim 1, at the end of the clause before the semicolon, "comparing..." the comma is not needed.

b) In claim 2, at the end of the claim, "an identification information a photographer of said photographic image" is not grammatically correct.

c) In claim 4, at the end of the clause, "comparing..." the second comma should be removed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In claim 1, the clause starting, “regarding as an...” is not clear. There appears to be some word or words missing. Also, "regarding," as a step, is not understood.

b) In claim 4, in the clause, “judging whether or not...” the phrase “said first and second image characteristic amounts acquired from said comparison” lacks antecedent basis.

c) Claims not mentioned specifically depend from indefinite antecedent claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,499,294 to Friedman.

As to claim 1, Friedman discloses a method of preventing falsification of an image of a produced image produced in an imaging apparatus comprising the steps of:

extracting a first image characteristic amount by a specified algorithm from said produced image in said imaging apparatus (column 4, lines 33-37; the hash is the image characteristic amount);

recording identification information of said produced image in said imaging apparatus and said first image characteristic amount into a database of an authentication section which authenticates a status that there is no falsification in said produced image (column 4, lines 43-45; the public key is the identification information, the public key is stored with the encrypted hash);

regarding as an authentication object image whose authentication is requested to said authentication section, extracting a second image characteristic amount by said specified algorithm from said authentication object image (column 6, lines 23-29);

comparing said first image characteristic amount with said second image characteristic amount, in which said extracted authentication data and said authentication data recorded in said database have the same identification information (column 6, lines 23-51); and

judging whether or not said authentication object image is falsified after said image production, based on consistency between said first and second image characteristic amounts acquired from said comparison in order to prevent said falsification of said produced image based on said judgment (column 6, lines 23-51).

As to claim 2, Friedman discloses the method according to claim 1, wherein said imaging apparatus has a camera (Fig.3A), in which said produced image is a photographic image photographed by said camera, in which said identification information is an identification information of said camera or a file name of said photographic image or an identification information a photographer of said photographic image (column 4, lines 42-43; since the public key is unique to the camera, it identifies the camera).

As to claim 4, Friedman discloses a method of preventing falsification of a produced image produced in an imaging apparatus, comprising the steps of:

producing an image to acquire a first image data of the produced image in said imaging apparatus (column 5, lines 53-56),

recording identification information for identifying said produced image by said imaging apparatus and said first image data of said produced image by said imaging apparatus into a database in an authentication section which authenticates that there is no falsification in said produced image (column 4, lines 43-45; column 5, lines 61-63),

comparing a second image data of authentication object image which has been requested to be authenticated by said authentication section, with said first image data recorded in said databases in the said authentication section, in which said extracted authentication data and said authentication data recorded in said database have the same identification information (column 6, lines 2-51; here the image data are compared by comparing their hashes, i.e., characteristic amounts), and

judging whether or not said authentication object image is falsified after said image production, based on consistency between said first and second image characteristic amounts acquired from said comparison in order to prevent said falsification of said produced image based on said judgment (column 6, lines 2-51).

Regarding claim 5, Friedman discloses the method according to claim 4, wherein said imaging apparatus has a camera (Fig.3A), in which said produced image is a photographic image photographed by said camera, in which said identification information is an identification information of said camera or a file name of said photographic image or an identification information a photographer of said photographic image (column 4, lines 42-43; since the public key is unique to the camera, it identifies the camera).

6. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,875,249 to Mintzer et al.

As to claim 7, Mintzer discloses a method of preventing falsification of a produced image produced in an imaging apparatus, comprising the steps of:

sending authentication data from an authentication section for authenticating a status that there is no falsification in a produced image which is produced by said imaging apparatus to said imaging apparatus (column 6, lines 43-47),

recording said authentication data and identification information for identifying said produced image of said imaging apparatus into a database in said authentication section (column 6, lines 36-38),

attaching said authentication data to said produced image or embedding said authentication data into said produced image, when said imaging apparatus produces said produced image, extracting said authentication data from an authentication object image which has been requested to be authenticated in said authentication section (column 6, lines 25-27),

comparing said extracted authentication data with said authentication data recorded in said database, in which said extracted authentication data and said authentication data recorded in said database have the same identification information, (column 6, lines 57-64) and

judging whether or not said authentication object image is falsified after said image production, based on consistency between said extracted authentication data and said authentication data acquired from said comparison in order to prevent said falsification of said produced image based on said judgment (column 6, lines 57-64).

7. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by .S. Patent Application Publication 2003/0065922 to Fredlund (hereinafter "Fredlund").

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

As to claim 1, Fredlund discloses a method of preventing falsification of an image of a produced image produced in an imaging apparatus, comprising the steps of:

extracting a first image characteristic amount by a specified algorithm from said produced image in said imaging apparatus (paragraphs [0037], [0038] and [0041]; the values which make up the authentication signature, created when applying the signature data to the digital image, or checksum data, etc.);

recording identification information of said produced image in said imaging apparatus and said first image characteristic amount into a database of an authentication section which authenticates a status that there is no falsification in said produced image (paragraphs [0040] and [0042]; the ID and the authentication signature are stored);

regarding as an authentication object image whose authentication is requested to said authentication section, extracting a second image characteristic amount by said specified algorithm from said authentication object image (paragraph [0055]);

comparing said first image characteristic amount with said second image characteristic amount, in which said extracted authentication data and said authentication data recorded in said database have the same identification information (paragraphs [0057] and [0058]; and

judging whether or not said authentication object image is falsified after said image production, based on consistency between said first and second image characteristic amounts acquired from said comparison in order to prevent said falsification of said produced image based on said judgment (paragraph [0058]).

As to claim 2, Fredlund discloses the method according to claim 1, wherein said imaging apparatus has a camera (Fig.1), in which said produced image is a

photographic image photographed by said camera (paragraph [0007]), in which said identification information is an identification information of said camera or a file name of said photographic image or an identification information a photographer of said photographic image (paragraph [0040]).

As to claim 3, Fredlund discloses the method according to claim 1, wherein said imaging apparatus has a computer in which said produced image is a computer graphics image produced by said computer or an image which has been image-processed by said computer (paragraph [0062]), and said identification information is an identification information of said computer or a file name of said produced image, or an identification information of a producer of said produced image (paragraph [0040]).

As to claim 7, Fredlund discloses a method of preventing falsification of a produced image produced in an imaging apparatus, comprising the steps of:

sending authentication data from an authentication section for authenticating a status that there is no falsification in a produced image which is produced by said imaging apparatus to said imaging apparatus (paragraph [0035]),

recording said authentication data and identification information for identifying said produced image of said imaging apparatus into a database in said authentication section (paragraphs [0040] and [0042]),

attaching said authentication data to said produced image or embedding said authentication data into said produced image, when said imaging apparatus produces said produced image, extracting said authentication data from an authentication object image which has been requested to be authenticated in said authentication section

(paragraph [0043] states that the image may be "marked" or "encoded", implying the attachment or embedding of the authentication signature),

comparing said extracted authentication data with said authentication data recorded in said database, in which said extracted authentication data and said authentication data recorded in said database have the same identification information (paragraph [0058]), and

judging whether or not said authentication object image is falsified after said image production, based on consistency between said extracted authentication data and said authentication data acquired from said comparison in order to prevent said falsification of said produced image based on said judgment (paragraph [0058]).

As to claim 8, Fredlund discloses the method according to claim 7, wherein said imaging apparatus has a camera (Fig.1), in which said produced image is a photographic image photographed by said camera (paragraph [0007]), in which said identification information is an identification information of said camera or a file name of said photographic image or an identification information a photographer of said photographic image (paragraph [0040]).

As to claim 9, Fredlund discloses the method according to claim 7, wherein said imaging apparatus has a computer in which said produced image is a computer graphics image produced by said computer or an image which has been image-processed by said computer (paragraph [0062]), and said identification information is an identification information of said computer or a file name of said

produced image, or an identification information of a producer of said produced image (paragraph [0040]).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman.

As to claims 3 and 6, Friedman does not disclose that the imaging apparatus is a computer. However, the Examiner takes Official Notice that using computers as imaging apparatus is well known in the art. It would have been obvious to one of ordinary skill in the art to adapt Friedman's invention to a computer imaging apparatus because of the proliferation of computers in the art of image processing.

10. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mintzer.

As to claim 8, Mintzer does disclose that said imaging apparatus has a camera, in which said produced image is a photographic image photographed by said camera. However, the Examiner takes Official Notice that cameras, such as digital cameras, are well known in the producing images. It would have been obvious to utilize such an

imaging apparatus as a camera due to its convenience, as well as the added benefit of providing authentication to the camera.

As to claim 9, Mintzer disclose that said imaging apparatus has a computer, in which said produced image is a computer graphics image produced by said computer or an image which has been image-processed by said computer (e.g., Fig.1, elements 101, 102).

Neither of claims 8 or 9 disclose that said identification information is an identification information of said computer or a file name of said produced image or an identification information of producer of said produced image. The Examiner takes Official Notice that such identification is well known. It would have been obvious for one of ordinary skill in the art to utilize such identification information because it would allow accurate identification of the image to further ensure proper authentication may be made.

11. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Fredlund and U.S. Patent Application Publication 2002/0114452 to Hamilton.

As to claim 4, Fredlund discloses a method of preventing falsification of a produced image produced in an imaging apparatus, comprising the steps of:

producing an image to acquire a first image data of the produced image in said imaging apparatus (paragraph [0029]),

recording identification information for identifying said produced image by said imaging apparatus into a database in an authentication section which authenticates that there is no falsification in said produced image (paragraph [0040] and [0042]).

judging whether or not said authentication object image is falsified after said image production, based on consistency between first and second image characteristic amounts acquired from a comparison in order to prevent said falsification of said produced image based on said judgment (paragraph [0058]).

Fredlund does not disclose storing said first image data of said produced image by said imaging apparatus and comparing a second image data of authentication object image which has been requested to be authenticated by said authentication section, with said first image data recorded in said databases in the said authentication section, in which said extracted authentication data. However, in the same environment, comparing the image data is well known as evidenced by Hamilton (sentence which bridges the left and right columns on page 3). It would have been obvious to one of ordinary skill in the art to modify Fredlund's system according to the teachings of Hamilton because direct comparison of the image data itself, would yield more precise results. Note that according to the Fredlund system, the authentication data recorded in said database would have the same identification information (paragraphs [0057] and [0058]).

As to claim 5, Fredlund discloses the method according to claim 4, wherein said imaging apparatus has a camera (Fig.1), in which said produced image is a photographic image photographed by said camera (paragraph [0007]), in which said

identification information is an identification information of said camera or a file name of said photographic image or an identification information a photographer of said photographic image (paragraph [0040]).

As to claim 6, Fredlund discloses the method according to claim 4, wherein said imaging apparatus has a computer in which said produced image is a computer graphics image produced by said computer or an image which has been image-processed by said computer (paragraph [0062]), and said identification information is an identification information of said computer or a file name of said produced image, or an identification information of a producer of said produced image (paragraph [0040]).

References Cited

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,285,775 to Wu et al. discloses a watermarking scheme for image authentication. The patent does not disclose the storing of the watermark and ID information in a database.

U.S. Patent 6,532,541 to Chang et al. discloses a method and apparatus for authentication. Features are extracted from images for comparison in the authentication process. The patent does not disclose a database or storing identification information.

U.S. Patent Application Publication 2004/001925 to Marvel et al. discloses a system and method for image tamper detection which embeds a thumbnail of the image into the image.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon Chang
Jon Chang
Primary Examiner
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Jon Chang
October 18, 2004